February 2013

Uchunguzi (Journal Watch/Montre de Journal) March 2013

Benjamin Wachira
Aga Khan University, benjamin.wachira@aku.edu

African Journal of Emergency Medicine (2013) 3, 30–32

African Federation for Emergency Medicine

African Journal of Emergency Medicine

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Uchunguzi (Journal Watch/*Montre de Journal*)

Benjamin W. Wachira *

Accident and Emergency Department, Aga Khan University Hospital – Nairobi, Nairobi, Kenya

Received 7 January 2013; accepted 19 January 2013
Available online 7 February 2013

KEYWORDS

Ambulances;
Bites;
Foreign bodies;
Registries;
Burden of illness

Uchunguzi means investigation in Swahili and provides a summary of some of the most recent international literature as presented in other leading journals, but with an emphasis on what is relevant to our continent.

Title 1: Motorbike ambulances help Sierra Leone meet MDGs

Content: The "three delays" model, conceptualises factors affecting appropriate use of maternal healthcare; delay in decision to seek care, delay in reaching care and delay in receiving care. Much emphasis has been placed on delay 3 – regarding improved coverage and quality of emergency obstetric care. Tackling delay 1 involves initiatives to mobilise communities to use maternity services. The second delay (regarding transport infrastructure) has been a relatively neglected field of study. Six motorbike ambulances specifically engineered for use on poor roads in resource poor situations were provided in 2006 in Kambia, Sierra Leone as part of an emergency referral system. Around one-third of all emergency referrals were for obstetric cases, with accidents comprising around a fifth and medical/surgical cases comprising the rest. The capital and ongoing costs of the motorbike ambulances were low, and implementation was possible in a short time. As part of the healthcare system in rural areas, motorbike ambulances may help improve quality of care – by minimising the delay in reaching care.

Reference: Emergency obstetric referral in rural Sierra Leone: what can motorbike ambulances contribute? A mixed-methods study. Matern Child Health J. 2012 Aug 7 [Epub ahead of print].

Title 2: Dogs and snakes in the ED

Content: The most common animal bites to present in emergencies are dog and snake bites. Dogs are natural scavengers, capable of eating and biting through hard bones. As such, they have powerful jaws and are able to exert biting power of between 30 kg and 70 kg per square centimetre. In 2006, more than 31,000 patients required reconstructive surgery in the USA as a consequence of dog bites. Snake bites are recognised by the WHO as a neglected tropical disease and are responsible for up to 125,000 deaths around the world each year. The majority of these deaths occur in the poor countries of Africa,

* Tel.: +254 728593360.
E-mail addresses: benjawambugu@hotmail.com, benjawambugu@yahoo.com.

Peer review under responsibility of African Federation for Emergency Medicine.

ELSEVIER Production and hosting by Elsevier

http://dx.doi.org/10.1016/j.afjem.2013.01.002

Asia and Latin America. This extensive review of the management of dog and snake bites from South Africa provides a useful reference guide for health care workers in emergency centres across the continent due to the presence of similar animal species.

Reference: Management of common animal bites in the emergency centre: The most common animal bites to present in emergencies are dog and snake bites. Continuous Med Educ J 2012;**30**(11):401–5.

Title 3: African ED guidelines for central lines – use the insertion site associated with the least likelihood of injury

Content: Catheter-related bloodstream infections (CRBI) are an important cause of morbidity and mortality in hospitalised patients. In emergent and high-risk situations, the femoral route is often chosen due to the ease and perceived lower risk of this insertion site. Current guidelines recommend that femoral venous access should be avoided to reduce CRBI. In a meta-analysis involving 3230 catheters placed in the subclavian vein, 10,958 in the internal jugular and 3188 in the femoral vein for a total of 113,652 catheter days, there was no significant difference in the risk of catheter-related bloodstream infections between the femoral and subclavian/internal jugular sites and between the subclavian and internal jugular sites. Additionally, there was no difference in the risk of deep venous thrombosis when the femoral site was compared to the subclavian and internal jugular sites combined. The Irish guidelines' recommendation is ''to use the insertion site associated with the least likelihood of injury (jugular, femoral, subclavian)''. This may be applied equally well to resource limited settings where the skill and expertise of the operator or the availability and expertise of ultrasound-guided placement are limited, thus increasing the risk of bleeding and other complications (pneumothorax).

Reference: The risk of catheter-related bloodstream infection with femoral venous catheters as compared to subclavian and internal jugular venous catheters: a systematic review of the literature and meta-analysis. Crit Care Med 2012;**40**(8):2479–85.

Title 4: Integrated emergency care in Tanzania

Content: Sub-Saharan Africa faces a disproportionate burden of acute disease and many challenges to meeting the call of World Health Assembly Resolution 60.22 for formal integrated emergency care systems. There are four foundational challenges to integrating emergency care into health systems: (1) the burden of acute disease in sub-Saharan Africa is severely under-documented, (2) health-care facilities often lack an integrated approach to triage, resuscitation, and stabilisation of acutely ill patients, (3) essential components of acute and emergency care have not been determined, and there is no consensus on how to define success and, (4) there is no current advocacy plan for placing emergency care on the global health agenda. Despite these challenges, interest in emergency care training has rapidly expanded in Africa. One such initiative is the development of the first dedicated public emergency department in Tanzania via a public–private partnership and the first emergency medicine residency programme in East Africa. Although the practice of emergency medicine has indeed 'evolved during the past 40 years into a coherent global discipline with a unique set of cognitive, technical, and administrative skills for managing acute illness or injuries,' there remain notable differences in the scope of practice required of providers in low-income countries. This article looks at the evolution of emergency care training in Tanzania, a programme which serves as a model for emergency care development in the region.

Reference: Emergency care capacity in Africa: A clinical and educational initiative in Tanzania. J Pub Health Policy 2012;**33**(S1):S126–37.

Title 5: Honey glazed cough and sleep for childhood URI

Content: Cough is a common symptom in paediatric practice. It often results in discomfort to the child and loss of sleep for both the child and parents. In an attempt to treat cough, caregivers frequently administer over-the-counter (OTC) medications to their children, with their attendant risks, lack of proven efficacy, and the disapproval of professional paediatric organisations. A variety of home remedies and herbal medications are used by some caregivers to treat the symptoms associated with upper respiratory tract infections (URIs), one of which is honey. The World Health Organization has noted honey as a potential treatment of cough and cold symptoms, and it is considered as a demulcent that is inexpensive, popular, and safe (outside of the infant population). Honey has antioxidant properties and increases cytokine release, which may explain its antimicrobial effects. In a recent double-blind, randomised, placebo-controlled study, 300 children aged 1 to 5 years with URIs, nocturnal cough, and illness duration of 7 days received a single dose of 10 g of eucalyptus honey, citrus honey, labiatae honey, or placebo administered 30 minutes before bedtime. When symptom scores were compared for each treatment group from the night before treatment to the night of treatment, parents noted improvement in their child's cough frequency, cough severity, the cough was less bothersome to the child, the child's sleep and their own sleep. Honey may be a preferable treatment for cough and sleep difficulty associated with childhood URI, and it is readily available and inexpensive.

Reference: Effect of honey on nocturnal cough and sleep quality: A double-blind, randomized, placebo-controlled study. Pediatrics 2012;**130**(3):465–71.

Title 6: Establishing a trauma registry in Sub-Saharan Africa

Content: In developing countries, an accurate burden of trauma usually cannot be quantified. A trauma study group in the largest hospital in Nigeria consisting of emergency physicians and trauma surgeons established a trauma registry with funding from personal contributions. A questionnaire was developed and administered to all trauma patients presenting to the emergency room and updated until discharge. Monthly meetings were held by the group to review progress. Some of the challenges experienced included duplicate or incomplete documentation, missed cases, cost of registry software, payment of staff, unretrieved questionnaires and a cumbersome data spreadsheet. The study shows that personal effort could be successful at developing a trauma registry. The use of expensive software is not always necessary. This could be a model solution that is practical for the rest of the continent.

Reference: Establishing a trauma registry in a level 1 trauma centre in Subsaharan Africa – challenges and local experience. Inj Prev 2012;**18**:A89–90.

Title 7: Burden of emergency disease quantified

Content: Emergency medicine consists of immediate interventions to prevent needless death or disability from time critical health problems. A proportion of many chronic and communicable diseases require emergency services and this proportion of the disease burden can be qualified as the ''burden of emergency disease.'' Researchers in Fort Liberte in Haiti recorded the emergency cases for nineteen out of the twenty-four months of 2009 and 2010. The total of each diagnosis was divided by nineteen and multiplied by twelve to estimate a yearly incidence of emergency cases in Fort Liberte for that diagnosis. Disability-adjusted life year (DALY)/capita of said diagnosis was found by dividing the annual DALYs of that particular disease in Haiti by the population of Haiti. The yearly incidence of emergency cases was multiplied by these DALYs/capita of that diagnosis in Haiti to give us the DALYs of emergency presentations of that disease. The burden of emergency disease estimated by these calculations was twenty-seven DALYs per year. DALYs from HIV, tuberculosis and malaria, the most funded diseases, calculated for Fort Liberte are four, 0.06 and 0.01 by comparison. These three diseases combined contribute five times less DALYs to the overall burden of disease but receive 225 times more funding. Further, users of the emergency room in Fort Liberte are in the most productive years of life and disability in this age group is particularly devastating. Thus, DALYs contributed by emergency medical presentations are significant and affect a young population therefore, they require addressing. With disease burden shifting as countries develop, as highlighted by the WHO's 2003 World Health Report, emergency programmes can no longer be considered non-essential on the world stage.

Reference: *Shifting the paradigm of emergency care in developing countries*. <http://empowerandadvance.org/MPH_Thesis_Final.pdf> [last accessed 07 January 2012]

Title 8: Mother's kiss for blocked noses in kids

Content: Foreign bodies lodged in the nasal cavity are a common problem in children, most frequently occurring between the ages of 2 and 5 years, and their removal can be challenging. Various techniques have been described: instrumental extraction (using a hook or nasal forceps), suction, balloon catheters, cyanoacrylate glue and various positive -pressure techniques, one of which is the ''mother's kiss'' or ''parent's kiss''. The mother's kiss was first described in 1965 by Vladimir Ctibor, a general practitioner from New Jersey. The mother, or other trusted adult, places her mouth over the child's open mouth, forming a firm seal as if about to perform mouth-to-mouth resuscitation. While occluding the unaffected nostril with a finger, the adult then blows until they feel the resistance caused by closure of the child's glottis, at which point the adult gives a sharp exhalation to deliver a short puff of air into the child's mouth. This puff of air passes through the nasopharynx, out through the unoccluded nostril and, if successful, results in the expulsion of the foreign body. The procedure is fully explained to the adult before starting, and the child is told that the parent will give him or her a ''big kiss'' so that minimal distress is caused to the child. The procedure can be repeated a number of times if not initially successful. In a recent systematic review of case reports and case series, the technique was effective about 60% of the time (95% confidence interval, 52–67%) with no adverse effects. The mother's kiss appears to be a safe and effective technique for first-line treatment in the removal of a foreign body from the nasal cavity. In addition, it may prevent the need for general anaesthesia in some cases.

Reference: Efficacy and safety of the ''mother's kiss'' technique: a systematic review of case reports and case series. CMAJ 2012;**184**(17):E904–12.

Title 9: An EFAR solution to pre-hospital care in resource constrained countries

Content: Pre-hospital emergency care in a resource-constrained country faces three major obstacles: (1) limited access to acute care, (2) limited transportation to hospitals, and (3) the inappropriateness of Western pre-hospital care models for resource-constrained areas. The emergency first aid responder (EFAR) system designed and piloted in South Africa addresses these issues by utilising and building upon the resources available in a resource-constrained area. Immediate emergency care is initiated and provided by community members themselves in an organised way. Hospital transport is achieved using the area's existing methods of transportation or, resource permitting, through EFAR system controlled Transporters. Finally, the integration of Community Based Organizations into the EFAR system provides a way for the model to be locally adapted, provides a method for EFARs to voice their input and needs, and ensures local support and that the model remains appropriate for the targeted communities and regions. EFAR system's graduated implementation method allows it to be implemented in different areas with varying degrees of development, and does not rely on the entire system being implemented first to provide partial function. Additional parts of the EFAR system can then be implemented as the region grows and increases in infrastructure, population, and available resources.

Reference: A strategy to implement and support pre-hospital emergency medical systems in developing, resource-constrained areas of South Africa. Injury 2012. doi: 10.1016/j.injury.2012.08.015.